



Dart Hawkesbury
1270 Aberdeen St Hawkesbury, ON K6A 1K7 Canada
Tel (613) 632-5200

Purchasing Receipts

PO No	Supplier	Line Item No	Rel No	Terms	Purchased Item	Description	For Part No	Project	Equipment ID	Order Qty	Due Date	Received Quantity	Accounting Job No	Serial No	Status	Receive Date	Price/Unit	Aging Days	Past Due	Total
PO038421	MEC002-VU	2	1	Net 30	17-4 SS H1150 Round Bar 3.500"	17-4 SS H1150 Round Bar 3.500" MATERIAL: 17-4 PH CONDITION H1150 receive ft				12	1/29/2018	12		S037874	Stock	2/1/2018	\$ 112.93 / ft	0		\$1,355
Total:										12		12								\$1,355.

Plex 2/1/2018 10:33 AM Dart Dubois Pascal



Castle Metals®

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 1

Pack Slip No: 2817872

Ship From: A. M. Castle & Co. (Canada) Inc. Toronto 2150 Argenta Road MISSISSAUGA, ON L5N 2K7		Sold To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Ship To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		Deliver To: DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped 23-JAN-2018	F.O.B. ORIGIN	Freight Terms Prepaid	Carrier LOCAL FLEET	BOL No 2830743	Delivery No 121556766		

Shipment Details

Final Destination Branch -

Order No 4995880	Line No 1	Item No 23972.BO	Description 3.5000.RD.17CR-4NI STAINLESS CR.H1150 132.0000-156.0000 SPECIFICATIONS: AMS 5643 ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S Email P/s and certs to: clavoie@dartaero.com	Ordered Qty 392.52 LBS	Invoice Qty 12.2917 FT
Purchase Order No 38421	Part Number				

Details

ALL PAPERWORK MUST FOLLOW ORDER / CUSTOMER MUST RECEIVE AT TIME OF DELIVERY
ALL MATERIAL MUST HAVE IDENTIFYING MARKINGS EX:HEAT #S
Email P/s and certs to: clavoie@dartaero.com
END USER: DART AEROSPACE
END USER: COMMERCIAL AIRCRAFT PARTS

Mill/Source	Heat Number 268831	Mech ID	PCS	Width (IN)	Length (IN)	Shipped Qty (LBS)
			1		147.5000	408.0000

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description.
Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 90 days of the shipment. Material cut to the correct spec. or material cut by the customer cannot be returned
for credit.

Reviewed by Authorized Castle Metals Representative:



Date
01/31/18

Name:

[Signature]



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200

PURCHASE ORDER **PO038421**

5037874

Supplier: MEC002-VU
Metaux Castle
P.O. Box 4090 Stn A
Toronto
ON
M5W OE9 Canada

Ship To: 1270 Aberdeen Street
Hawkesbury
ON
K6A 1K7 Canada
Phone: 613-632-5200

PO No: PO038421
PO Date: 11/20/17
Due Date: 1/18/18
Purchase Order Revision:
Revision Date:
Ship-To Contact: Lavoie, Chantal
clavoie@dartaero.com
Via: Ground
Pymt Terms: Net 30
Freight Terms:
Special Comments:

Items

Line Item	Part	Supplier Part No	Description	Status	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (USD)	Extended Price
2	M17-4-H1150-R3.500		17-4 SS H1150 Round Bar 3.500" : MATERIAL: 17-4 PH CONDITION H1150 receive ft	Firmed	1/29/18	12 ft	0 ft	12 ft	\$112.93/ft	\$1,355.16
									Grand Total:	\$1,355.16

DAS

11

9-89

Order Notes

Procurement Quality Clauses

A005 right of entry
A012 chemical and physical test report
A016 personnel qualification
A017 raw material identification (as applicable)
A026 certification of material conformance
A041 quality management system
A042 dart notification by supplier
A043 retention of quality documents

A048 counterfeit parts avoidance, detection, mitigation and disposition program

A049 supplier awareness

CL

Terms & Condition of Purchasing(Suppliers) and Procurement Quality Clauses are an integral part of our AS9100 requirements. To learn in detail, please visit www.dartaerospace.com for further explanation.

Plex 1/29/18 3:15 PM dart.lavoie.chantal

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M17-4-H1150 R3500
 DATE: JAN 31 2018

PO BATCH NO: 038421/5037874

MATERIAL CERT REQ'D: yes
 QUANTITY RECEIVED: 12"
 QUANTITY INSPECTED: 12"
 QUANTITY REJECTED: 0

THICKNESS ORDERED: 3.500
 THICKNESS RECEIVED: 3.500
 SHEET SIZE ORDERED: N/A
 SHEET SIZE RECEIVED: N/A

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y <input checked="" type="checkbox"/> N <input type="checkbox"/>	
CORRECT FINISH	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORROSION	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT GRAIN DIRECTION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT MATERIAL PER M-DRAWING	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	<u>AMS 3643</u>
CORRECT THICKNESS	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
PHOTO REQUIRED	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
CORRECT REF # TO LINK CERT	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	<u>Heat # 268831</u>
CORRECT MATERIAL IDENTIFICATION	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
CORRECT M# ON THE MATERIAL	<input checked="" type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/>	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y <input type="checkbox"/> N <input checked="" type="checkbox"/>	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK.
 RECORD RESULTS BELOW

	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC 18 INSPECTION

ENGINEERING SIGNOFF (if required)

INSPECTED BY: DAS
11
 9-89
 DATE: JAN 31 2018

SIGNED OFF BY: _____
 DATE: _____

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in:

SPECIFICATION CONTROL DRAWING

PURCHASE MATERIAL: 17-4 PH / S17400 / TYPE 630 SS ROUND BAR
GRAIN MUST BE ALONG LENGTH OF BAR
MINIMUM YIELD STRENGTH PER TABLE
MINIMUM ULTIMATE STRENGTH PER TABLE

SPECIFICATION: AMS 5643 OR ASTM A564
PART NUMBER: M17-4-111111-1 R X:XXX WHERE: HHHH SPECIFIES THE MATERIAL CONDITION (PER TABLE BELOW)
COND O.D. X.XXX = DIAMETER (IN INCHES)

MATERIAL CONDITION TABLE:

CODE	CONDITION	MIN YIELD TENSILE STRENGTH (KSI)	MIN ULTIMATE TENSILE STRENGTH (KSI)
(OMITTED)	NONE SPECIFIED (CONDITION A NOT ACCEPTABLE)	100	150
H900	H900	170	190
H925	H925	155	170
H1025	H1025	145	155
H1075	H1075	125	145
H1100	H1100	115	140
H1150	H1150	105	135
CONDA	CONDITION A (SOLUTION TREATED)		

NOTES: MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR TENSION OR SHEAR APPLICATIONS IN COLD WEATHER CONDITIONS
MATERIAL IN H900 AND H925 CONDITION NOT RECOMMENDED FOR APPLICATIONS WHERE STRESS CORROSION CRACKING IS POSSIBLE
CONDITION A NOT TO BE USED IN DESIGN FOR FINAL PRODUCT AND SHOULD ALWAYS BE HEAT TREATED

EXAMPLES:

PART NUMBER
4.000" DIAMETER BAR MINT UTS = 150 KSI, MIN YTS = 100 KSI
2.500" DIAMETER BAR H900 CONDITION
3.250" DIAMETER BAR H1025 CONDITION
0.750" DIAMETER BAR A CONDITION

RELEASED
2017-10-31
E17-728

APPROVED

C	ADDED MATERIAL CONDITION (CIR17-107)	NO	17.09.14
B	REFORMAT DWG. S17400 TYPE 630 ADDED TO PURCHASE MATERIAL (ZN DB-1), ADD A564 SPEC (C8-1), REF PAR DB-420A	VS	10.05.20
A	NEW ISSUE	CP	05.03.16
REV.	DESCRIPTION	BY	DATE
DRAWN	DESIGN	NO	
CHECKED	NO	CP	
MFG. APPR.	DRAWING NO.	RA	
APPROVED	M17-4-R	WM	
DE APPR.	TITLE	CP	
DATE	17.09.14	17-4 SS ROUND BAR	
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA			
SHEET 1 OF 1			
SCALE			
NTS			
COPYRIGHT © 2005 BY DART AEROSPACE LTD			
THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.			



VALBRUNA

SLATER STAINLESS, INC.
2400 TAYLOR STREET WEST · PO BOX 630
FORT WAYNE IN 46802 USA
PHONE 260 434 2800 · FAX 260 434 2801

Product Certification Report

Report Number: **5272160**

Certified on Dec 15, 2016 Page 1 of 2

Order ID	Order Date	Commodity Code			
1602035 002	12/01/16	H6303.5RT			
Dim 1	Dim 2	Dim 3	Heat I.D.	Customer I.D.	Customer Purchase Order
3.5000	.0000	.0000	268831	002472	51869
Product Shape	Product Surface	Customer Grade			
Rounds	HR & Rough Turned	630			
Length (Inches)	Min.	Max.	Weight	Melt Date: 10/12/15	
132.000	156.000	428330			

Ship To
VALBRUNA STAINLESS, INC.
370 VILLAGE DRIVE
CAROL STREAM, IL. 60188

Sold To
VALBRUNA STAINLESS, INC.
370 VILLAGE DRIVE
CAROL STREAM, IL 60188

P.O. 422951 - IAC 23972

Lifts: 0016

Condition H-1150

ASTMA 564-13

ASMESA 564 13

AMS 5643U (except finish)

AMS 5643/H1150

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	Co	Ta
.039	.46	.023	.020	.46	15.84	4.33	.19	3.27	.028	.250	.0032
Cb+Ta											
.2532											

BRINELL (Type A device) (E-10)

HBW

319

ROOM TEMP TENSILE ASTM E8-16a

TS (PSI)	.2%YS (PSI)	%EL(2")	%RA
141400	126000	19.4	60.9

CHARPY V NOTCH E23-16b 10x10mm

FT/LB	FT/LB	FT/LB	LAT EX	LAT EX	LAT EX	%SHR	%SHR	%SHR	AVG FT LB
63	67	69	21	26	27	50	50	50	66

TEST(F)

- 40

MAGNETIC PARTICLE to AMS2303F

FREQ SEV

AVG .08 .11

MACRO ASTM E340-15/E381-01

MACRO

OK

OK

OK

GRAIN SIZE ASTM E112-13

GRAIN SIZE	Etchant	Magnification X
7	Marbles	100

Results relate only to the items tested. Certification shall not be reproduced except in full, without written approval of Valbruna Stainless Inc. The recording of false, fictitious, or fraudulent statements on this document may be punished as a felony under federal statutes, including Federal law Title 18, Chapter 47. Consult material safety data sheet (MSDS) for hazard info. I hereby certify that the reported figures are correct as contained in the records of the corporation.

Manager Laboratory Services

Tad Landwehr

TLandwehr@valbruna.us

Tad Landwehr



VALBRUNA

SLATER STAINLESS, INC.
2400 TAYLOR STREET, WEST - PO BOX 870
FORT WAYNE, IN 46801 USA
PHONE 760 434 2800 - FAX 760 434 2801

PO 422951
IAC 23972

Product Certification Report

Report Number: 5272160

Certified on Dec 15, 2016 Page 2 of 2

Order I.D.	Order Date	Commodity Code			
1602035 002	12/01/16	H6303.5RT			
Dim 1	Dim 2	Dim 3	Heat I.D.	Customer I.D.	Customer Purchase Order
3.5000	.0000	.0000	268831	002472	51869
Product Shape	Product Surface				Customer Grade
Rounds	HR & Rough Turned				630
Length (inches)	Bill of Lading #		Weight		
132.000 Min.	156.000 Max.		428330	Melt Date: 10/12/15	

VALBRUNA STAINLESS, INC.
370 VILLAGE DRIVE
Ship To CAROL STREAM, IL. 60188

VALBRUNA STAINLESS, INC.
370 VILLAGE DRIVE
Sold To CAROL STREAM, IL 60188

PERCENT FERRITE (AMS 2315)

% FERRITE Etchant Magnification X
AVG .4 Marbles 100

Solution heat treated at 1900 degrees F for 1 Hour min. and air cooled.

Heat treated at 1150 degrees F for 4 hours and air cooled.

Chemical testing to one or more of the listed ASTM methods:

E415-14, E1019-11, E1086-14.

Location of tensile fracture: inside middle of gage length, %elong after fracture.

Chemical Analysis performed at Acciaierie Valbruna, Italy.

No mercury or low melting alloy contamination. No weld repair.

Material melted in Italy, manufactured in the United States.

Material conforms to listed specifications. DFARS compliant. Our heat treat furnaces use air atmosphere.

Quality system is compliant with ISO 9001:2008. Produced in accordance with EN 10204 3.1.

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ems4 TLandwehr@valbruna.us

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